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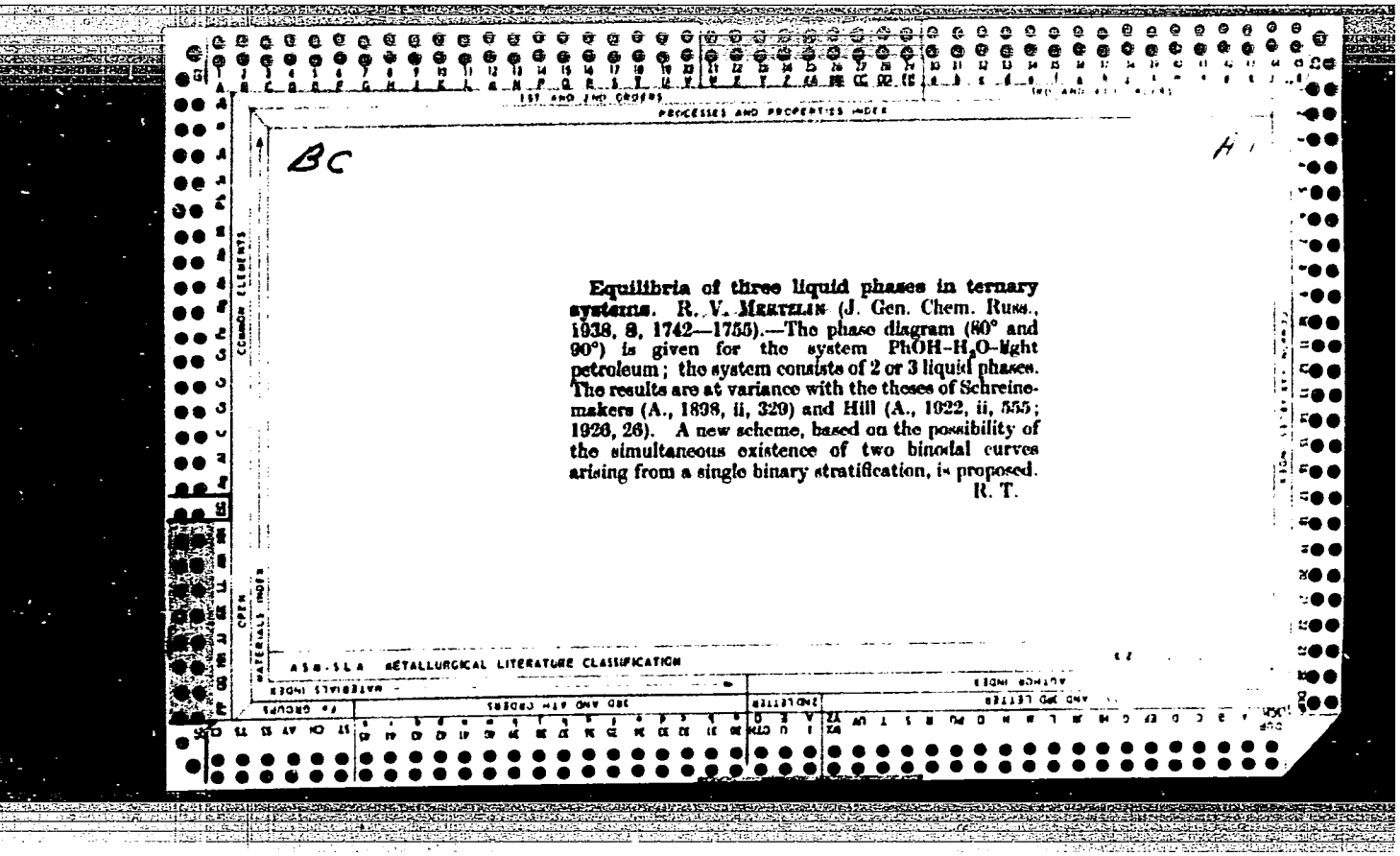

BC

H

Equilibria of three liquid phases in ternary systems. R. V. MERTELIS (J. Gen. Chem. Russ., 1938, **8**, 1742—1755).—The phase diagram (80° and 90°) is given for the system PhOH–H_2O–light petroleum; the system consists of 2 or 3 liquid phases. The results are at variance with the theses of Schreinemakers (A., 1898, ii, 329) and Hill (A., 1922, ii, 555; 1926, 26). A new scheme, based on the possibility of the simultaneous existence of two binodal curves arising from a single binary stratification, is proposed.

R. T.

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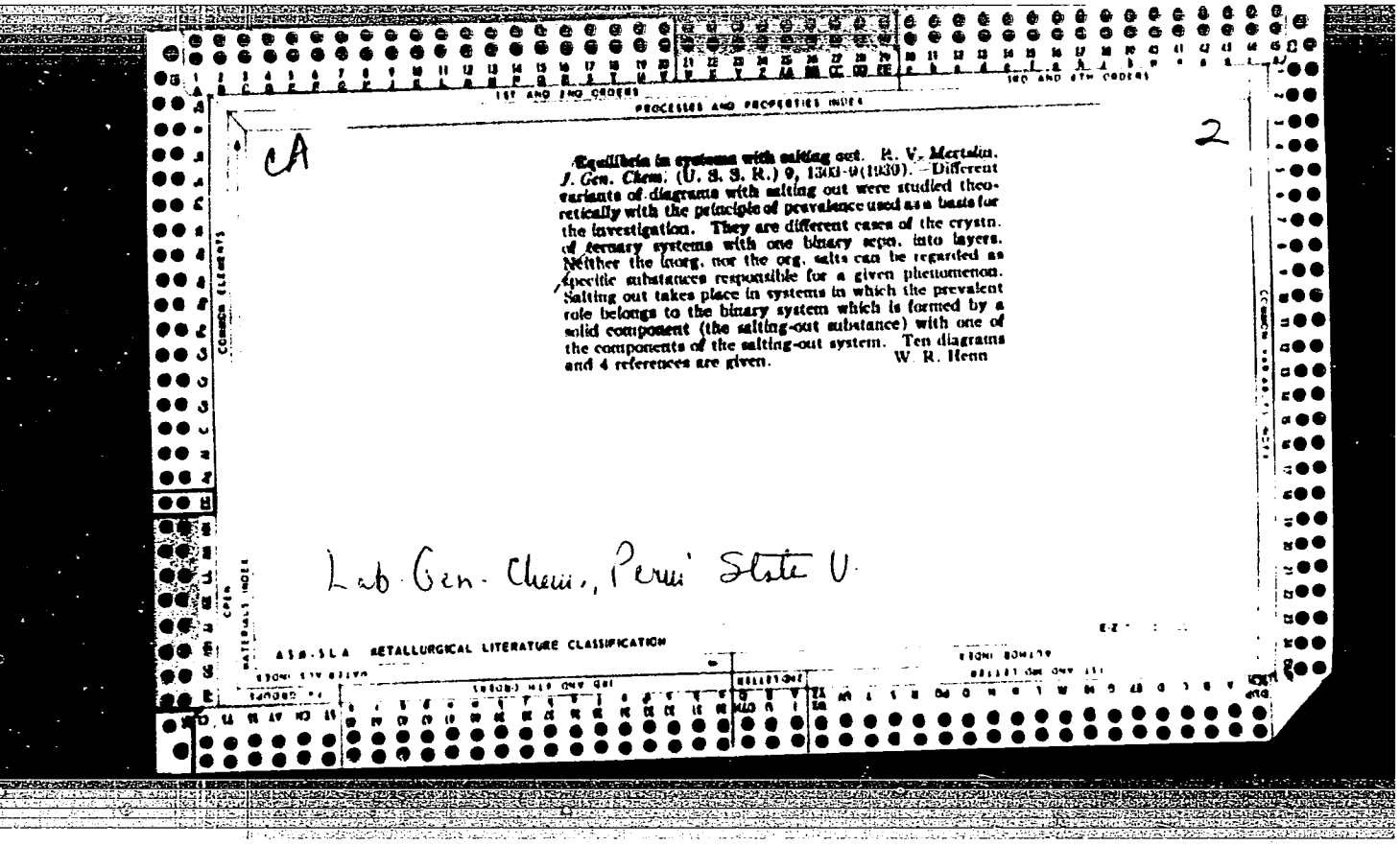

CA

2

Equilibria in systems with salting out. B. V. Merzlin. *J. Gen. Chem.* (U. S. S. R.) 9, 1303-9(1939).—Different variants of diagrams with salting out were studied theoretically with the principle of prevalence used as a basis for the investigation. They are different cases of the crystn. of ternary systems with one binary eutec. into layers. Neither the inorg. nor the org. salts can be regarded as specific substances responsible for a given phenomenon. Salting out takes place in systems in which the prevalent role belongs to the binary system which is formed by a solid component (the salting-out substance) with one of the components of the salting-out system. Ten diagrams and 4 references are given. W. R. Henn

Lab. Gen. Chem., Penn State U.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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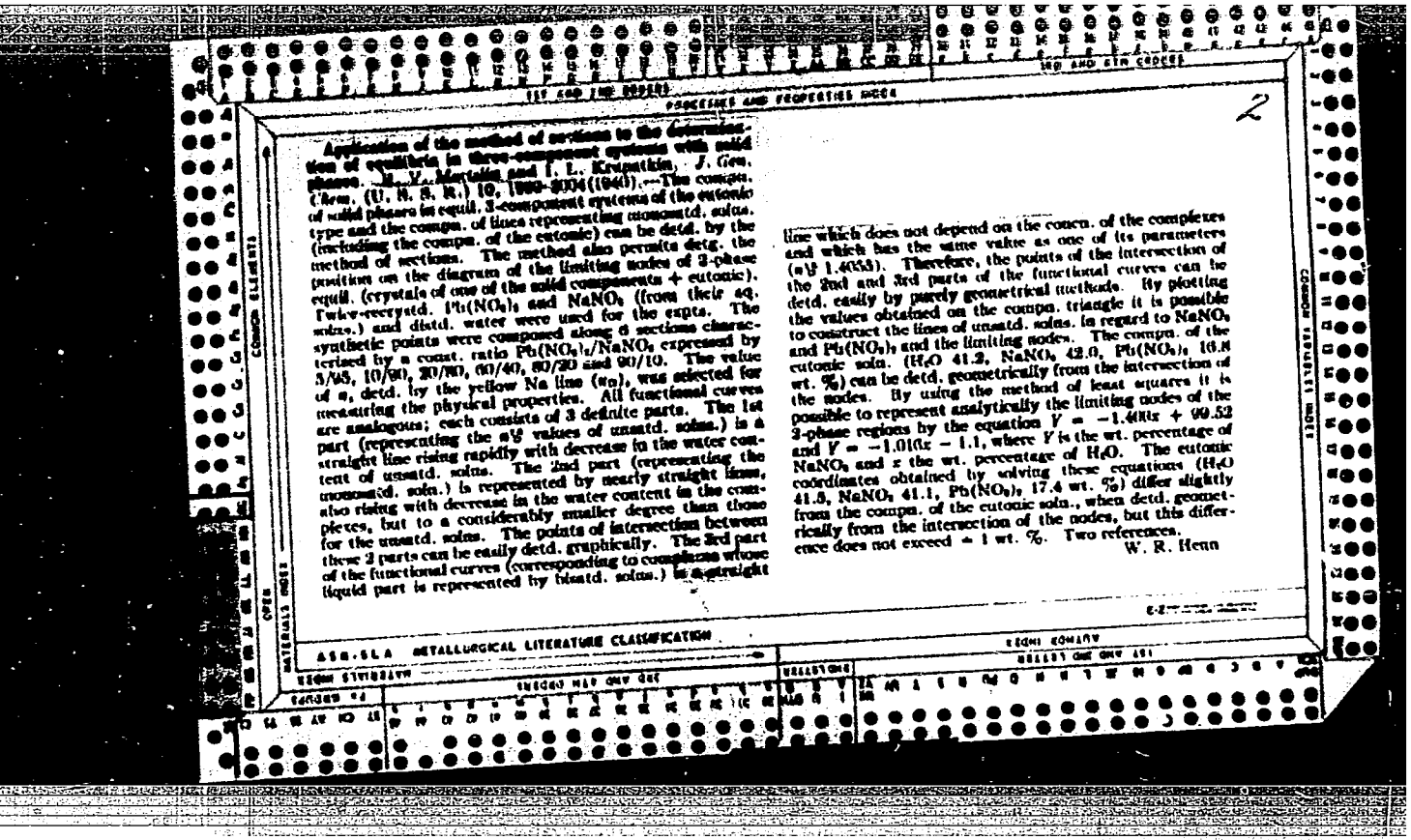

Application of the method of sections to the determination of equilibria in three-component systems with solid phases. M. V. Martelin and I. L. Krupatkin, *J. Gen. Chem. (U. S. S. R.)* 10, 1999-2004 (1940).—The compns. of solid phases in equil. 3-component systems of the eutonic type and the compns. of lines representing unsaturated solns. (including the compns. of the eutonic) can be detd. by the method of sections. The method also permits detg. the position on the diagram of the limiting nodes of 2-phase equil. (crystals of one of the solid components + eutonic). Twice-recrystd. $Pb(NO_3)_2$ and $NaNO_3$ (from their sat. solns.) and distd. water were used for the expts. The synthetic points were composed along 6 sections characterized by a const. ratio $Pb(NO_3)_2/NaNO_3$ expressed by 5/95, 10/90, 20/80, 60/40, 80/20 and 90/10. The value of n_D, detd. by the yellow Na line (n_D), was selected for measuring the physical properties. All functional curves are analogous; each consists of 3 definite parts. The 1st part (representing the n_D values of unsatd. solns.) is a straight line rising rapidly with decrease in the water content of unsatd. solns. The 2nd part (representing the unsatd. soln.) is represented by nearly straight lines, also rising with decrease in the water content in the curve pieces, but to a considerably smaller degree than those for the unsatd. solns. The points of intersection between these 2 parts can be easily detd. graphically. The 3rd part of the functional curves (corresponding to complexes whose liquid part is represented by bisatd. solns.) is a straight line which does not depend on the concn. of the complexes and which has the same value as one of its parameters (n_D 1.4053). Therefore, the points of the intersection of the 2nd and 3rd parts of the functional curves can be detd. easily by purely geometrical methods. By plotting the values obtained on the compn. triangle it is possible to construct the lines of unsatd. solns. In regard to $NaNO_3$ and $Pb(NO_3)_2$ and the limiting nodes. The compn. of the eutonic soln. (H_2O 41.2, $NaNO_3$ 42.0, $Pb(NO_3)_2$ 16.8 wt. %) can be detd. geometrically from the intersection of the nodes. By using the method of least squares it is possible to represent analytically the limiting nodes of the 2-phase regions by the equation $Y = -1.408x + 99.52$ and $Y = -1.01(x - 1.1$, where Y is the wt. percentage of $NaNO_3$ and x the wt. percentage of H_2O. The eutonic coördinates obtained by solving these equations (H_2O 41.8, $NaNO_3$ 41.1, $Pb(NO_3)_2$ 17.4 wt. %) differ slightly from the compn. of the eutonic soln., when detd. geometrically from the intersection of the nodes, but this difference does not exceed ± 1 wt. %. Two references.

W. R. Henn

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

[illegible]ERTSLIN, R. V.

"Salted-out Ternary Systems Containing Binary Irrational Prevailing Systems" Zhur. Obshch. Khim., 10, No. [illegible], [illegible]. Chair of Inorganic Chemistry M[illegible] State University. Received 9 April 194[illegible].

[illegible] Report U-1[illegible], 3 Jan. [illegible].

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.

Crystallization of ternary systems composed of two double layers. Report No.1. Izv. Sekt. fiz. khim. anal. 18:33-59 '49. (MIRA 11:4)

1. Gosudarstvennyy universitet, kafedra neorganicheskoy khimii, g. Molotov.

(Systems (Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

BA

H6-7
Liquid Properties
Molecular Structure
of Solutions

Liquid-phase equilibria in three-component systems. R. V. Mertslin and V. V. Parkacheva (*J. gen. Chem. USSR.*, 1950, **20**, 1929—1936 [U.S. transl., 1997—2004].) —A general discussion of typical equilibrium diagrams indicates that, in multi-component systems, each binary layer has its own independent region of layer formation and that displacement of one such region by another may occur with change in temp. These conclusions are confirmed by observed data for the system H_2O–Et_2O–$(CH_2{\cdot}CN)_2$ which contains an independent region of layer formation linked with layer formation in the binary system H_2O–$(CH_2{\cdot}CN)_2$ and displaced with falling temp. by the corresponding region extending from the equilibrium area of the three liquid phases

W. J. Baker.

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2

CA

Equilibrium between liquid phases in 3-component systems. R. V. Mertslin and V. V. Parkacheva. *J. Gen.*

Chem. U.S.S.R. 20, 1907, 2004(1950)(Engl. translation). See *C. A.* 45, [illegible]

H. L. D.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

CA

Solvent systems. R. V. Mertslin and V. D. Vasev (Molotov State Univ.). *Zhur. Obshchei Khim.* 21, 417-20(1951); *J. Gen. Chem. U.S.S.R.* 21, 463-74(1951) (English trans.).—The investigation was made to det. the effect of a 3rd component in increasing the soly. of a solid substance in a given solvent. Specifically, the soly. of solid succinonitrile was detd. in EtOH in the presence of Et_2O. The system succinonitrile–EtOH was first studied. Two immiscible liquids are formed over a concn. range (from 21.2 to 87.0% EtOH with a eutectic temp. ("monotectic") of 11.5°. At lower EtOH concns. the m.p. rises to 50° for pure succinonitrile; and at higher concns. it decreases, presumably finally encountering another eutectic, but crystn. temps. were not investigated below +6°.

The ternary system succinonitrile–EtOH–Et_2O was studied, and isotherms for the ternary system were calcd. at 10, 12, 15, and 20°. At 10° the 1-phase region is a band extending along the EtOH–Et_2O side of the triangle, starting at 88% EtOH on the EtOH-succinonitrile side, rising to a slight max. at a point with the compn. 36.1% EtOH, 42.3% Et_2O, and then tapering off to a point on the Et_2O-succinonitrile side contg. 98% Et_2O. All the points on the liquidus curve at 10° are connected by tie-lines with the succinonitrile corner, there being no sepn. into immiscible liquids below 11.5°, the eutectic temp. At 12° the diagram is similar, except that there appears a small, roughly cigar-shaped, 2-liquid-phase region, with 1 end on the EtOH-succinonitrile side at 20–22% EtOH, the other end at approx. 18% Et_2O, 16% EtOH. At 15° the 2-liquid-phase region is larger, and the 1-liquid-phase region is also larger and the max. is more pronounced. At 20° the 2-liquid-phase region is considerably larger, as is the 1-liquid-phase region, and they are elongated towards each other so that they are almost in contact. The increase in soly. of succinonitrile is attributed to chem. interaction between EtOH and Et_2O, which is a general requirement where the addn. of a 3rd component increases the soly. in this way.

Arild J. Miller

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R V

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7469

Author : Mertslin, R.V.
Inst : Saratov University
Title : Investigation of Heterogeneous States of Multipcomponent Systems

Orig Pub : Nauch. ezhegodnik za 1954 g. Saratovsk. un-ta, Saratov, 1955, 548-551

Abstract : A survey of work done by the author and his coworkers.

Card 1/1

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

AUTHORS: Nikurashina, N. I., Mertslin, R. V., Komarova, T. N. 2 V/79-29-2-1/71

TITLE: Investigation of the Equilibrium of Two Liquid Phases in the System n.-Hexane-Nitrobenzene-Aniline (Issledovaniye ravnovesiya dvukh zhidkikh faz v sisteme n.-geksan-nitrobenzol-anilin)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 345 - 350 (USSR)

ABSTRACT: The problems of practical importance concerning the extraction [illegible] from solutions, the decomposition by layers of the solutions of two mutually soluble liquids by salting out, the drying of gases, etc are connected with the problem of distributing a third substance among mutually insoluble or weakly soluble liquids. Nernst's distribution law does not contain the possibility of a variation in the reciprocal ratio of the components with the distribution of the third component content in the mixtures. Insofar as the problem concerning the distribution of the third component among two phases being in equilibrium considers the equilibrium of two liquid phases of systems consisting of three components the relationship occurring in this connection

Card 1/3

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help to approach the solution of the problem. Mertslin, R. V. (Ref 3) determined certain rules governing the distribution of nodes (lines linking the compositions of the conjugated solutions in the diagram triangle) in the range of the two-phase liquid equilibrium in the system consisting of three components. He showed that the character of the binodal curve and the distribution of the above-mentioned nodes within the decomposition by layers are interrelated. The purpose of the present paper was the experimental confirmation of the rules governing the distribution of the above-mentioned nodes in the system n.-hexane-aniline-nitrobenzene. The system was investigated with respect to solubility at 10 and 20°. It is shown that the critical point follows the system hexane- aniline - nitrobenzene. Based on Mertslin's method and further investigations a system of nodes was plotted within the decomposition by layers and the rule laid down by him was thus confirmed. There are 9 figures, 4 tables and 4 Soviet references.

Card 2/3

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"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Investigation of the Equilibrium of two Liquid Phases in the System n.-Hexane-Nitrobenzene-Aniline SOV/79-29-2-1/71

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: July 15, 1957

Card 3/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

AUTHORS: Nikurashina, N. I., Komarova, G. M., Mertslin, R. V. SOV/79-29-2-2/71

TITLE: Investigation of the Equilibrium of Three Liquid Phases in the Four-component System Water-n.-Hexane-Aniline-Nitrobenzene (Issledovaniye ravnovesiya trekh zhidkikh faz v chetyrekhkomponentnoy sisteme voda-n.-geksan-anilin-nitrobenzol)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 350-357 (USSR)

ABSTRACT: On investigating the equilibrium of two liquid phases in the system ...exane-aniline-nitrobenzene the authors had shown the regularity in the distribution of the nodes, determined by the interaction of the components in the predominant double system (Ref 1). The present paper is the further development of the "predominance theory", which is considered in a complicated case, i.e. the case of the four-component system water-n.-hexane-aniline-nitrobenzene. As is shown by the investigations illustrated in the figures, ternary and binary systems may be predominant in systems of such a type. In dependence on this circumstance the content formation of the three liquid phases, as well as its development may vary. The purpose of the present paper was the experimental confirmation of the rule governing

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the directional arrangement of the nodal diagram triangles of the three liquid phases in the system water-n -hexane-aniline-nitrobenzene, as is done in detail in the experimental part. All horizontal sections offer the same picture concerning the range of the three existing liquid phases. The nodal triangles are in the same direction, parallel to the right of the secant, which is drawn to the nitrobenzene-aniline. It was shown that the sectional method can be used to investigate the equilibrium of the three liquid phases in four-component systems. The rule concerning the directional arrangement of nodes was found to be valid also in the case of four-component systems There are 11 figures, 4 tables, and 3 Soviet references.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: July 15, 1957

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

5 (2)

AUTHORS: Mertslin, R. V., Nikurashina, N. I. SOV/79-29-8-4/8

TITLE: On the Methods and Laws of the Establishment of Equilibrium of the Four Liquid Phases in Condensed Quaternary Systems

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2474 - 2480 (USSR)

ABSTRACT: In contrast to some papers on the equilibrium of two- and three-phase liquid physical states, no systematic investigations of the equilibrium of the liquid phases in the above systems have hitherto been published. The systematic solution of the problems raised by the equilibrium of the number of liquid phases within systems of a different number of components, is, however, only possible by determination of the mode of formation of the maximum number of liquid phases within a system of given number of components and by determination of its laws of formation. The authors attempted to explain the manner in which the state of the four liquid phases appears in the quaternary system. The mode of formation of the four phases within the quaternary system is assumed to be connected with the mode of formation of the three liquid phases within the ternary system. It was shown that the temperature at the beginning of formation

Card 1/2

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of the four-phase state within the quaternary system must be higher than the temperatures at the beginning of formation of the three-phase state within two ternary systems enclosing the predominant binary system, and that in some cases it must exceed the temperatures at the beginning of formation of the three-phase state within the three enclosing three-phase systems. Near the temperatures at which the four-phase state is attained, two faces of the tetrahedron of the four-phase state must have the same direction, which corresponds to the law of direction of the triangles of the three liquid phases within the quaternary system with a predominant binary system (Figures). There are 9 figures and 2 Soviet references.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: December 19, 1957

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

5 4210

AUTHORS: [illegible]

TITLE: Concerning the Distribution Law of the Lines in the Three-Phase Spark [illegible]

PERIODICAL: [illegible]

ABSTRACT: [illegible]

Card 1/4

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Concerning the Distribution Law of Tie-Lines in the Three-Phase State of Four-Component Systems

lines, in the latter by three [illegible] lines. Since the distribution of tie-lines in triangular sections of the system is a function of mutual relationships of the components, the completely miscible pair AB becomes prevalent among the total of six pairs. This can be realized from the fact that [illegible] separating the areas of two- and three-phase states in section [illegible] of Fig. [illegible] are basically determined by the mutual relationship of A and B components. Phase [illegible] which occurs in each area is composed of D saturated with three-component system ABC which in turn is the homogeneous solution AB saturated with C. Since D is poorly miscible with A, B and C, and C is poorly miscible with A and B, the relationship between the latter two components determines the composition of phase [illegible]. Consequently, tie-lines in any horizontal section of the composition tetrahedron are oriented, depending on AB, as follows: [illegible] Tie-lines [illegible] inside with [illegible] direction (Fig. [illegible]) when A and B do not interact or dissociate, [illegible] they deviate from [illegible] to the

Card 2/5

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Concerning the Distribution Law of Tie-Lines in the Three-Phase State of Four-Component Systems

773+4
SOV/79-30-1-5/7

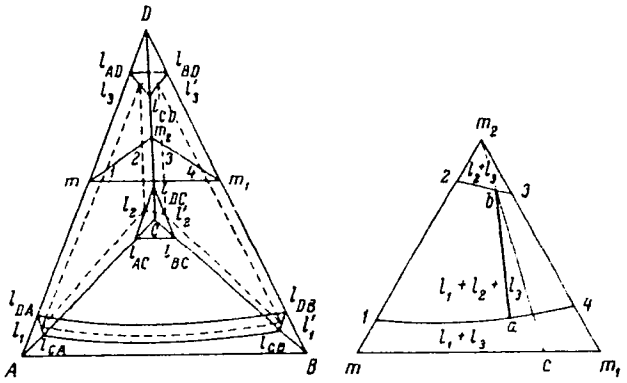

Fig. 1.

Card 3/5

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right or to the left, in the direction opposite to the critical point of three-phase state, when binary system AB tends to dissociate; (3) they deviate both to the right and to the left when pair AB contains nondissociated compound V (Fig. 4); (4) the most variegated deviations occur when compound V dissociates and curves 23 and 14 become gradually bent at S and S' (Fig. 5). There are 5 figures.

ASSOCIATION: Saratov State University (Saratovskiy gosudarstvennyy universitet)

SUBMITTED: February 26, 1958

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

NAUMOVA, I.P.; NIKURASHINA, N.I.; MERTSLIN, R.V.

Equilibrium between three liquid phases in four-component systems involving a predominant system with a chemical compound. Zhur.ob. khim. 30 no.10:3162-3166 O '61. (MIRA 14:4)

1. Saratovskiy gosudarstvennyy universitet.
(Systems (Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIDURASHINA, N.I.

Properties of the layer separation field in ternary systems including one binary predominating system. Part 1. Zhur.fiz. khim. 35 no.11:2616-2622 N '61. (MIRA 14:12)

1. Saratovskiy gosudarstvennyy universitet.
(Systems(Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.; KAMAYEVSKAYA, L.A.

Properties of the layer separation field in ternary systems including one predominating system. Part 2. Zhur.fiz.khim. 35 no.11:2628-2632 N '61. (MIRA 14:12)

1. Saratovskiy gosudarstvennyy universitet.
(Systems(Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.; PETROV, V.A.

Properties of the layer separation field of ternary systems containing a predominating binary system. Part 3. Zhur.fiz. khim. 35 no.12:2770-2774 D '61. (MIRA 14:12)

1. Saratovskiy gosudarstvennyy universitet imeni N.G. Chernyshevskogo.

(Systems (Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

RADYSHEVSKAYA, G.S.; NIKURASHINA, N.I.; MERTSLIN, R.V.

Temperature dependence of the equilibrium of three liquid phases in four-component systems. Zhur.ob.khim. 32 no.3: 673-676 Mr '62. (MIRA 15:3)

1. Saratovskiy gosudarstvennyy universitet.
(Systems (Chemistry)) (Phase rule and equilibrium)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

NIKURASHINA, N.I.; KOZLOVA, N.V.; MERTSLIN, R.V.

Characteristics of the layer separation field of transition type ternary systems. Part 1. Zhur.ob.khim. 32 no.4:1017-1022 Ap '62. (MIRA 15:4)

(Systems (Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.; NAUMOVA, P.I.

Transition temperatures of multiphase liquid states. Zhur.ob. khim. 32 no.5:1365-1368 My '62. (MIRA 15:5)

1. Saratovskiy gosudarstvennyy universitet.
(Phase rule and equilibrium)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.

Characteristics of the demixing field of transition-type ternary systems. Part 2. Zhur.ob.khim. 32 no.10:3122-3130 O '62. (MIRA 15:11)

1. Saratovskiy gosudarstvennyy universitet.
(Systems (Chemistry))
(Benzene) (Piperidine)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.; KAMAYEVSKAYA, L.A.

Properties of the field of demixing of ternary systems comprising one preponderant binary system. Part 4. Zhur. fiz. khim. 36 no.11:2491-2495 N'62. (MIRA 17:5)

1. Saratovskiy universitet, kafedra fiziko-khimicheskogo analiza.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.

Characteristics of the layer separation field in ternary transition type systems. Part 4. Zhur. ob. khim. 33 no.8: 2440-2448 Ag '63. (MIRA 16:11)

1. Saratovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.

"Correlation curves" of the layer separation field of ternary systems. Zhur.fiz.khim. 37 no.7:1467-1471 Jl '63. (MIRA 17:2)

1 Saratovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.

Properties of the demixing field in the system water - pyridine-aniline. Zhur. ob. khim. 34 no. 3:715-718 Mr '64. (MIRA 17:6)

1. Saratovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN, R.V.; NIKURASHINA, N.I.

Properties of the demixing field of ternary liquid systems containing a predominant binary system. Zhur. fiz. khim. 39 no.3:710-716 Mr '65. (MIRA 18:7)

1. Saratovskiy gosudarstvennyy universitet imeni Chernyshevskogo.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 44303-65 EWT(1)/EWA(j)/EWA(b)-2 JK

ACCESSION NR: AP5009193 S/0219/65/059/003/0068/0071

AUTHOR: Tatishvili, N. I. (Candidate of medical sciences, Head of brucellosis laboratory); Zalkind, S. Ya. (Professor, Head of viral cytopatholy laboratory); Mertsling, T. G.

TITLE: Effect of brucellosis antigens on splenic cell cultures of sensitized guinea pigs

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 59, no. 3, 1965, 68-71

TOPIC TAGS: guinea pig, brucellosis, antigen, spleen, culture method, E. coli, brucella, gamma globulin

ABSTRACT: The effect of brucellosis antigens on splenic cells was investigated in tissue cultures of guinea pigs sensitized with brucella, E. coli, and human gamma globulin. Animals were decapitated at the height of sensitization and spleens were extracted. Splenic cells were prepared for culturing in a test tube containing mica. At the time the splenic cells (5×10^6/ml) were placed into the test tube they were subjected to the action of a brucella culture killed by heating, and were subjected again after 48 hrs when the culture

Card 1/3

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medium was changed. Mica slides were stained 24, 48, 72, and 96 hrs after culturing for histological investigation. Cells found on test tube walls were separated with trypsin and measured with a hemocytometer. The cytotoxin index was based on the average number of cells with antigen found in test tubes divided by the average number of cells in control test tubes. Microscopic examinations determined the percentage of damaged cells per 1,000 count in the various fields of vision. Brucellosis antigen action produced a marked cytotoxic effect on splenic cells sensitized with brucella characterized by a decrease in absolute cell count, macrophage damage, and reduced percentage level of lymphoid cells. The brucellosis antigens did not produce any marked cytotoxic effect on the splenic cells of healthy animals or of animals sensitized with E. coli or human gamma globulin. The cytotoxin action mechanism appears to be specific and related to interaction of the antigens with the antibodies present in the sensitized cells. Orig. art. has: 2 figures.

ASSOCIATION: Laboratoriya virusnoy tsitopatologii Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov Ministerstva zdravookhraneniya SSSR (Viral Cytopathology Laboratory of the Moscow Scientific-

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 44303-65
ACCESSION NR: AP5009193

3

Research Institute of Viral Preparations of the Ministry of Health SSSR)
Laboratoriya brutselleza Instituta meditsinskoy parazitologii i tropicheskoy meditsiny Ministerstva zdravookhraneniya Gruzinskoy SSR, Tbilisi (Brucellosis Laboratory of the Institute of Medical Parasitology and Tropical Medicine of the Ministry of Health of the Georgian SSR)

SUBMITTED: 12Jul64 ENCL: 00 SUB CODE: LS

NR REF SOV: 001 OTHER: 006

Card 3/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSLIN-ORDA, M. S.

"Tubercular-Allergic Inflammation of the Tissues of the Eye in Patients Suffering From Trachoma." Sub 23 Apr 51, First Moscow Order of Lenin Medical Inst.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

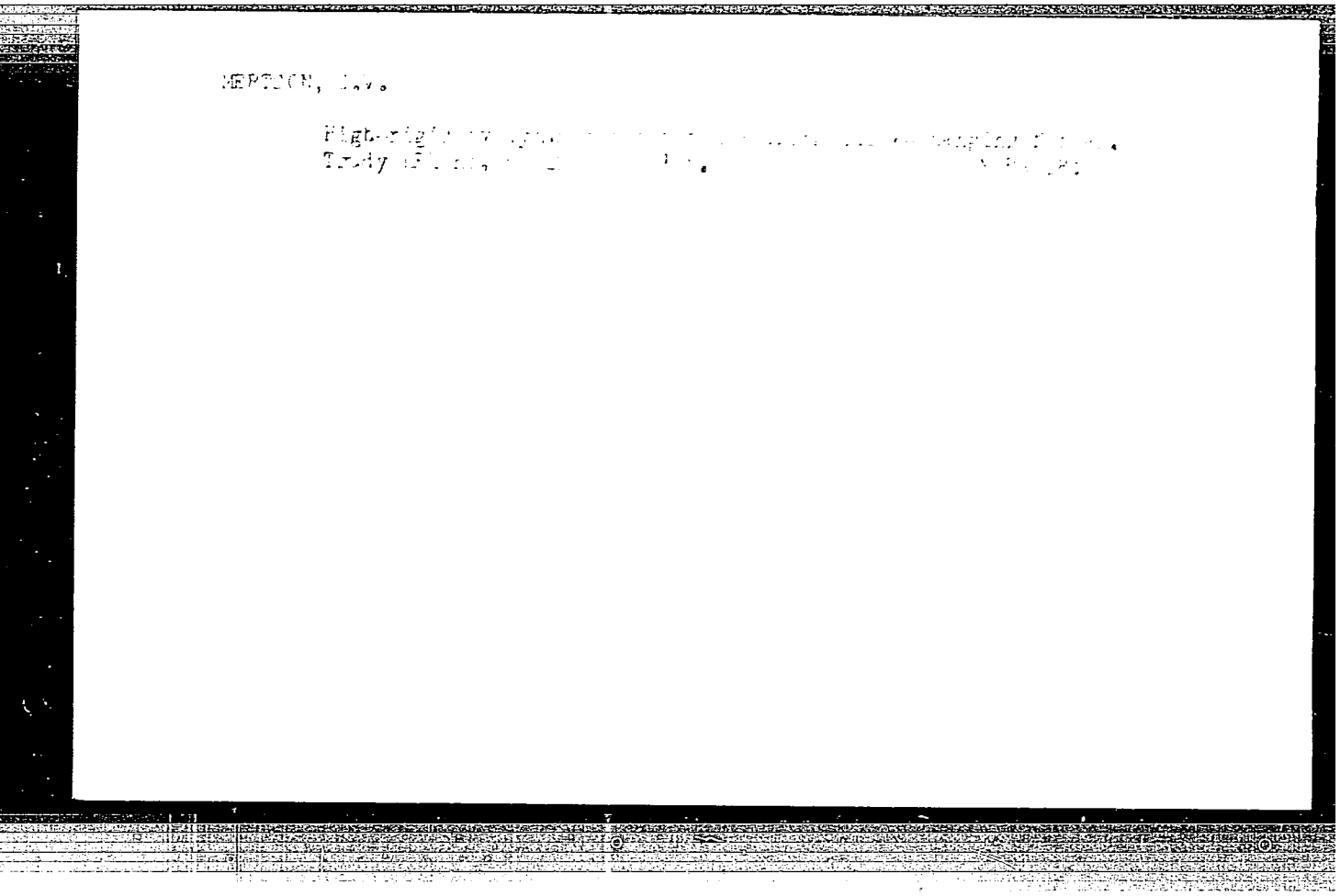
"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTSON, I.V., inzh.

Friction vibration dampers used in turning nonrigid shafts.
Vest.mashinostr. 44 no.12:49-50 D '64.
(MIRA 18:2)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 28825-66

ACC NR: AT6018669 SOURCE CODE: UR/2563/65/000/250/0100/0103

AUTHOR: Mertson, I. V.

35
B+1

ORG: none

TITLE: High-rigidity dynamometer for measurement of rapidly changing forces

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 250, 1965, 100-103

TOPIC TAGS: piezoelectric transducer, lathe, oscillograph, voltmeter, metal turning

ABSTRACT: For measurement of the forces involved in multiple blade lathe turning of metal parts, a dynamometer of high rigidity is required, since a relatively flexible mounting (as is required for generation of measurement current in all currently known designs) of any blade would essentially change the operating conditions of the lathe. With multiple blades, the mounting must also be very small. The piezoelectric transducers now used satisfy the requirements for rigidity, but do not transmit all the cutting forces for measurement. In order to satisfy this requirement, two-sided mounting of piezoelectric transducers was used, with the two oppositely mounted transducer elements connected with reversed electrical polarity. A vacuum tube voltmeter connected with an oscillograph for permanent readout completed the apparatus. Orig. art. has: 3 figures and 1 formula. [JPRS]

SUB CODE: 13, 09 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 001

Card 1/1 CC

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

CHEL'TSOV, V.S.; ARBUZOV, G.I.; MERTIS, K.L.

Research in the realm of the color development of multilayer films.
Trudy NIKFI no.7:117-122 '47. (MIRA 11:6)

1. Laboratoriya tsvetnykh izobrazheniy Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Color photography)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTTS, K. L.

Technology

(Color Photography) Moskva, Goskinoizdat 1950

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

[illegible], [illegible] L.

Dissertation: "Investigations into the Color Photographic Properties of Triple-Layer Photographic Papers with Color Development." Cand Tech Sci, [illegible] Cine-Photographic Inst, Moscow, 195[illegible]. Referativny [illegible]rnal--[illegible], [illegible], [illegible].

SO: [illegible] 284, 26 Nov 1954

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

RULENKO, N.I.; [illegible]VAYEVA, T.M., M[illegible], N.I.

Chemic forms of the radioactive isotope As^{76} formed in the neutron irradiation of phenylarsonic acid, and the production of enriched As^{76} preparations. Radiokhimiya no.3:[illegible]-335 '64.
(MIRA 18:3)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

VERTTS, P. A.

"Ecology of the European Deer Under Conditions in the Usman Forest." Cand Biol Sci, Moscow State U, Moscow, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVETSOVA, M. A.

(1) Math

Mathematical Reviews
v. 15, No. 1
JAN. 1954
ANALYSIS

1-13-54
LL

Mertvecova, M. A. Analogue of the process of tangent hyperbolas for general functional equations. Doklady Akad. Nauk SSSR (N.S.) 88, 611–614 (1953). (Russian)

The process of the title is a cubically converging iteration for solving an equation $f(x)=0$ in the complex field, as discussed by Salchov [same Doklady (N.S.) 82, 525–528 (1952); these Rev. 14, 91]. Following the work of Kantorovich and others for Newton's method, the author extends the process to solve (*) $P(x)=0$, where P carries a normed space X into a like space Y, and has a third Fréchet differential. The formula is $x_{n+1}=x_n-Q_n\Gamma_nP(x_n)$, where $\Gamma_n=[P'(x_n)]^{-1}$ and $Q_n=[I-2^{-1}\Gamma_nP''(x_n)\Gamma_nP(x_n)]^{-1}$. In two theorems the author gives conditions for (*) to have a unique solution x^* in a region of X, and estimates the size of $\|x_n-x^*\|$, which vanishes like $2^{-n}C^{2^n}$, $0<C<1$. The process is applied to a class of nonlinear integral equations, and one numerical example is cited. G. E. Forsythe.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

SALEKHOV, G.S.; MERTVETSOVA, M.A.

Convergence of some iterative processes. Izv. Kazan. fil. AN SSSR. Ser. fiz.-mat. i tekh. nauk no.5:77-108 '54. (MLRA 8:7)

1. Fiziko-tekhnicheskiy institut Kazanskogo filiala AN SSSR.
(Functional equations)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVETSOVA, M.A.

One approximate computation method of nonlinear functional equations. Izv.Kazan.fil. AN SSSR.Ser.fiz.mat.i tekh.nauk no.5:159-163 '55. (MLRA 10:9)

1.Fiziko-tekhnicheskiy institut Kazanskogo filiala Akademii nauk SSSR. (Approximate computation) (Functional equations)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 25238-65 EWG(j)/EWG(r)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/T/EWA(h)/EWA(l) 62 60
Pc-4/Pe-5/Pr-4/Ps-4/Pu-4/Peb RPL WG/RM/WW

ACCESSION NR: AP5002750 S/0073/64/030/012/1318/1321

AUTHOR: Kornev, K.A.; Kachan, A.A.; Chervyatsova, L.L.; Polak, L.S.; Mertvichenko, Ye. F.; Demchenko, S.S.

TITLE: Kinetics of the radiochemical graft copolymerization of acrylonitrile with capron fiber

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 12, 1964, 1319-1321

TOPIC TAGS: vapor seeding copolymerization, capron fiber, acrylonitrile vapor, copolymerization constant, radiation polymerization, graft copolymer, polyacrylonitrile

ABSTRACT: Degreased, drawn, capron fiber was irradiated (Co^{60} source, 1600 curies, 100 rad/sec, 10^{-3} mm Hg, room temperature, 0.25 Mrad) and exposed to an acrylonitrile vapor at 80 mm pressure in a study of the kinetics of vapor seeding graft copolymerization which does not involve formation of a homopolymer. Graphs illustrate the effects of temperature (22-60C, 0-24 hrs), radiation dosage (0-20 Mrad) and monomer vapor pressure (30-80 mm Hg, 0-10 hrs). The authors calculated constants for the rate of chain growth, rate of chain disruption, the apparent activation energy (1.9 Kcal/mol), activation energy of chain growth and chain disruption, the average distance between initiation centers (120 A) and the average lengths of chains. An increase in monomer

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 25238-65

ACCESSION NR: AP5002750

vapor pressure led to an increase in the quantity of copolymerized polyacrylonitrile. An increase in temperature decreased the amount of copolymerization, while an increase in radiation dosage above 2 Mrad had little effect. "The authors are indebted to A. Ya. Rozovskiy for participating in the evaluation of the results". Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (High polymer institute, AN SSSR)

SUBMITTED: 25Dec63 ENCL: 00 SUB CODE: OC

NO REF SOV: 003 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 14492-66 EWT(m)/EWP(j)/T WW/GS/RM

ACC NR: AT6006237 (A) SOURCE CODE: UR/0000/65/000/000/0015/0017

AUTHOR: Mertvichenko, Ye. F.; Demchenko, S. S.

35
B+1

ORG: Institute of the Chemistry of Macromolecular Compounds, AN UkrSSR, Kiev (Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR)

TITLE: Physical and mechanical properties of capron fiber modified by grafting of polyacrylonitrile

SOURCE: AN UkrSSR. Modifikatsiya svoystv polimerov i polimernykh materialov (Modification of the properties of polymers and polymeric materials). Kiev, Naukova dumka, 1965, 15-17.

TOPIC TAGS: nylon, caprone fiber, acrylonitrile, graft copolymer

ABSTRACT: A study has been made of the strength of capron-fiber-acrylonitrile graft copolymers prepared by radiation-induced gas-phase graft-copolymerization. Acrylonitrile in the gaseous state was grafted to capron cord no 34.5 which had been preirradiated with γ-rays from a Co^{60} source. Dose rate was 100 rad/sec. The effect of the number and length of grafted chains on the strength of the copolymer was studied. The number of grafted chains was varied by controlling the irradiation dose. The grafted chain length was modified by controlling the reaction time. The results of tensile tests showed that: 1) irradiation of the original fiber lowers its tensile strength by increasing the number of surface defects, and 2) the

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

L 14492-66

ACC NR: AT6006237

strength of the modified fiber is determined solely by the total amount of the grafted layer and does not depend on the number and length of the grafted chains. The highest strength was exhibited by fibers containing 4 to 5% polyacrylonitrile. The study resulted in the conclusion that strengthening of the fiber is the result of a "healing" of its surface defects by small amounts of polyacrylonitrile. Orig. art. has: 2 figures and 1 table. [BO]

SUB CODE: 11/ SUBM DATE: 060ct65/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4199

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

VASILENOK, S.T., nauchnyy sotrudnik; MERTVISHCHEV, L.V., nauchnyy sotrudnik

Effect of selective felling on the reforestation and growth of plantations in Yakutia. Trudy VSNIPILesdrov no.11:35-48 '64. (MIRA 18:11)

1. Laboratoriya lesovosstanovleniya Vostochno-Sibirskogo nauchno-issledovatel'skogo i proyektnogo instituta lesnoy i derevoobrabatyvayushchey promyshlennosti.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

[redacted], Yu. I., [redacted], F.

Felt

Use of staple caprone fiber in felt production,
Leg. prom., 12 No. 4, 1952

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVISHCHEV, Yu.I.; KUZ'MICHEV, F.I., retsenzent; PLEMYANNIKOV, M.N., redaktor; KOGAN, V.V., tekhnicheskiy redaktor

[The SU-230-Sh universal felting machine] Universal'naia svoilachivaiushchaia mashina SU-230-Sh. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva legkoi promyshl. SSSR, 1956. 76 p. (MLRA 10:2)
(Felt) (Textile machinery)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVISHCHEV, Yu.I., kandidat tekhnicheskikh nauk.

Pressure packing of felt. Leg.prom. 16 no.5:41-45 My '56. (MLRA 9:8)

(Felt)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

KUZ'MICHEV, F.I., kand.tekhn.nauk; MERTVISHCHEV, Yu.I., kand.tekhn. nauk

Use of chemical fibers in the felt industry. Tekst.prom. 19 no.10:52-54 O '59. (MIRA 13:1)
(Felt) (Textile fibers, Synthetic)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

KUZ'MICHEV, F.; MERTVISHCHEV, Yu.

Fibers mixed with wool. Prom. koop. 14 no.5:25 My '60. (MIRA 13:12)

(Textile fibers, Synthetic) (Felt)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVISHCHEV, Yu.I., kand.tekhn.nauk

Studying the new principles of preliminary compressing in feltwork. Tekst.prom. 21 no.9:69-72 S '61. (MIRA 14:10)
(Feltwork)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVISHCHEV, Yuriy Ivanovich; KUZ'MICHEV, F.I., kand. tekhn. nauk, retsenzent; PLEMYANNIKOV, M.N., red.; BATYREVA, G.G., tekhn. red.

[Use of synthetic fibers in the felt industry] Ispol'zovanie iskusstvennykh volokon v valial'no-voilochnoi promyshlennosti. Moskva, Rostekhizdat, 1963. 115 p. (MIRA 16:4)
(Synthetic fibers) (Nonwoven materials) (Felt)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

[illegible], G. G.

"The Nature and Conditions of the Antagonistic Relationships of Certain Soil Bacteria and Actinomycetes." Cand Biol Sci, Moscow Order of Lenin State Uimeni M. V. Lomonosov, 1 Oct 54) (VM, 21 Sep 54)

SO: Sum 432, 29 Mar 55

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVOY, M.B. (Tashkent)

Using the infusion method for determining the fat content of prepared dishes. Vop.pit. 16 no.1:79 Ja-F '57. (MLRA 10:3)
(FOOD--ANALYSIS) (OILS AND FATS--ANALYSIS)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTVYACHENKO, F., polkovnik

Over-all execution of firing problems. Voen.vest. 42 no.5:80-81 My '62. (MIRA 15:11)

(Shooting, Military)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTZ, J

HUNG.

539.152.2

10423. On the application of a simple magnetic resonance absorption device for quantitative measurements. P. S. FARAGÓ, M. GÁCS AND J. MERTZ. *Acta. phys. Hungar.*, 3, No. 3–4, 329–33 (1954).

A specially simple nuclear resonance detector is obtained if the sample is in the resonant circuit of an oscillator and the power output is observed as a function of magnetic field. The linearity of change of output with Z" is demonstrated. G. R. WHITTEN

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERTZ J.

6

IRM

2679

INVESTIGATION OF MAGNETIC MOMENTS OF ATOMIC NUCLEI. P. S. Faragó, M. Géce, and J. Mertz (Central Research Inst. of Physics, Budapest). Nuovo cimento (10) 2, 1110–13(1955) Nov.

Measurements of the nuclear magnetic moments of Na^{22}, P^{31}, and P^{16} were repeated. The results are summarized and compared with those of other authors. (B.J.H.)

(2)

PM

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

USSR / Forestry. Forest Management. K

Abs Jour: Ref Zhur-Biol., No 7, 1958, 29537.

Author : Merukyan, S. M.
Inst : Not given.
Title : The Sovkhoz Forests of Yegor'yevskiy Rayon in Moscow Oblast' and Management.
(Sovkhozzyye lesa Yegor'yevskogo rayona Moskovskoy oblasti i vedeniye khozyaystva v nikh).

Orig Pub: Dokl. Mosk, s.-kh. akad. im. K.A. Timiryazeva, 1957, vyp. 29, 339-344.

Abstract: The state and distribution of kolkhoz forests are analyzed by rayon. The basic valuation indices for the coniferous and deciduous woods are given and the dimension of forest use are indicated. The economic expediency of uniformly selective fellings is noted.

Card 1/1 44

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

MERUNKA, R.

Introducing business accounting in machine-tractor stations. p. 150.

Vol. 6, no. 8, Apr. 1956

SBORNIK. RAD A MECHANISACE A ELETRIFIKACE ZEMEDELSTVI A LESNICTVI

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 11 Nov. 1956

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

S/079/62/032/012/004/008
D424/D307

AUTHORS: Gershkovich, Zh., Duvalma, M., Meruyu, Ye., Smorzhevskaya, M., Vaynberg, M. and Korletyanu, Ye.

TITLE: Production of isoprene from dimethyldioxan. I. The role of catalyst and support

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 12, 1962, 3987-3990

TEXT: In connection with work carried out at the authors' Institute in Bucharest on the production of isoprene from isobutylene and formaldehyde via 4,4-dimethyl-1,3-dioxan (DMD), the effect of the composition of the catalyst for the vapor-phase conversion of DMD to isoprene on its selectivity, isomerizing effect, etc. has been studied. Standard conditions found to be optimal in preliminary experiments were used, namely: 270°C and a space velocity of feed of DMD of 0.4 hr-1. The highest activity was possessed by a catalyst consisting of acid calcium phosphate on a silica/5% alumina support, the nature of the support being important. With this cata-

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

lyst, the selectivity fell as the temperature was increased from 150 to 350°C but the maximum total conversion (~ 65%) was obtained at ~ 300°C, the selectivity then being of the order of 85%. By-products found (by gas chromatography) included isobutylene, 2-methylbut-2-ene, methyldihydropyran, 2-methylbutan-1-ol, isovaleraldehyde, and dimers and trimers of isoprene. The fact that the support alone had a small catalytic activity due to its Lewis acid sites and leading mainly to isobutylene is considered to show that the activity of the calcium phosphate catalyst depends on the presence of Brönsted acid sites. The catalyst is not appreciably affected by the usual impurities in DMD but is poisoned by sulfur (mercaptans). It can also be used for the production of other dienes, e.g. 2-phenylbutadiene, by analogous reactions. There are 5 figures.

ASSOCIATION: Khimicheskiy issledovatel'skiy institut, Bucharest (Chemical Research Institute, Bucharest)

SUBMITTED: February 24, 1961

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

S/079/62/032/012/006/008
D424/D307

AUTHORS: Gershkovich, Ch., Duvalma, M., Meruyu, Ye., Sfitsesku, K., Korletyanu, Ye., Vaynberg, I. and Smorzhevskaya, M.

TITLE: Production of isoprene from dimethyldioxan. III. Acidity and activity of the cracking catalyst

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 12, 1962, 3992-3997

TEXT: The present article deals with the production of isoprene by the vapor-phase catalytic cracking of dimethyldioxan and shows that the activity of the catalyst depends on the presence of Brönsted acid sites, the reaction being analogous to that carried out in solution with acid catalysts. The catalysts used in the present work were prepared by calcining silica + 5% of alumina at 500°C, impregnating this support with solutions of phosphates (sodium, ammonium, calcium, etc.) of various concentrations, and calcining at 400°C. The proton acidity of the catalysts was measured by ion-ex-

Card 1/3

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3/079/62/032/012/006/008
D424/D307

Production of isoprene ...

change with neutral ammonium acetate solutic , and their surface area by a simplified B.E.T method. Plotting the increase in activity (total conversion under standard conditions) of the catalyst against increase in proton acidity gives a characteristic curve consisting of two rectilinear sections, the slope suddenly becoming more pronounced at a content of active phase in the catalyst of about 4%, corresponding to an acidity of 0.050 m-equiv/g. The selectivity also rises very rapidly and linearly, up to a proton acidity of about 0.10 m-equiv/g, after which it continues to rise very slowly, the conversion of dimethyldioxan to isoprene, however, remaining constant (because of a slight decrease in the total conversion) at about 47% under standard conditions (after 3 hrs with a space velocity of 0.4 hr^{-1}, at 300°C). The relationship between the first-order velocity constant and the acidity of the catalyst is similar to that for homogeneous acid catalysis. The specific surface of the catalyst falls as the content of active phase is increased from 0 to 34%, except that at 2% it is greater than at 5%. During working, as the catalyst becomes coated with 'coke' its acidity diminishes and the conversion falls, the selectivity increasing slightly.

Card 2/3

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The nature of the curve of the increase in acidity with the amount of active phase is explained by the formation of aggregation polymers by the phosphate on the surface of the support. The dependence of the activity on the proton acidity is explained by the formation of active surface compounds by the dimethyldioxan at the Brönsted acid sites. The levelling off of the conversion to isoprene at a certain acidity is due to the decreased specific surface and consequent decreased adsorption. The main side reaction - the production of isobutylene - takes place at both Brönsted and Lewis acid sites and is therefore independent of the presence of the active phase. Because the Brönsted acid sites are screened to some extent from 'coking up' by their adsorption of the dimethyldioxan, the Lewis acid sites are lost more rapidly during the working of the catalyst, which accounts for the increase in selectivity during working. There are 6 figures and 2 tables.

ASSOCIATION: Khimicheskiye issledovatel'skiy institut, Bucharest (Chemical Research Institute, Bucharest)

SUBMITTED: May 22, 1961

Card 3/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVA, M.

Some peculiarities in adapting the aluminum anodes for electrolytic condensers. El tech cas 14 no.1:47-49 '63.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

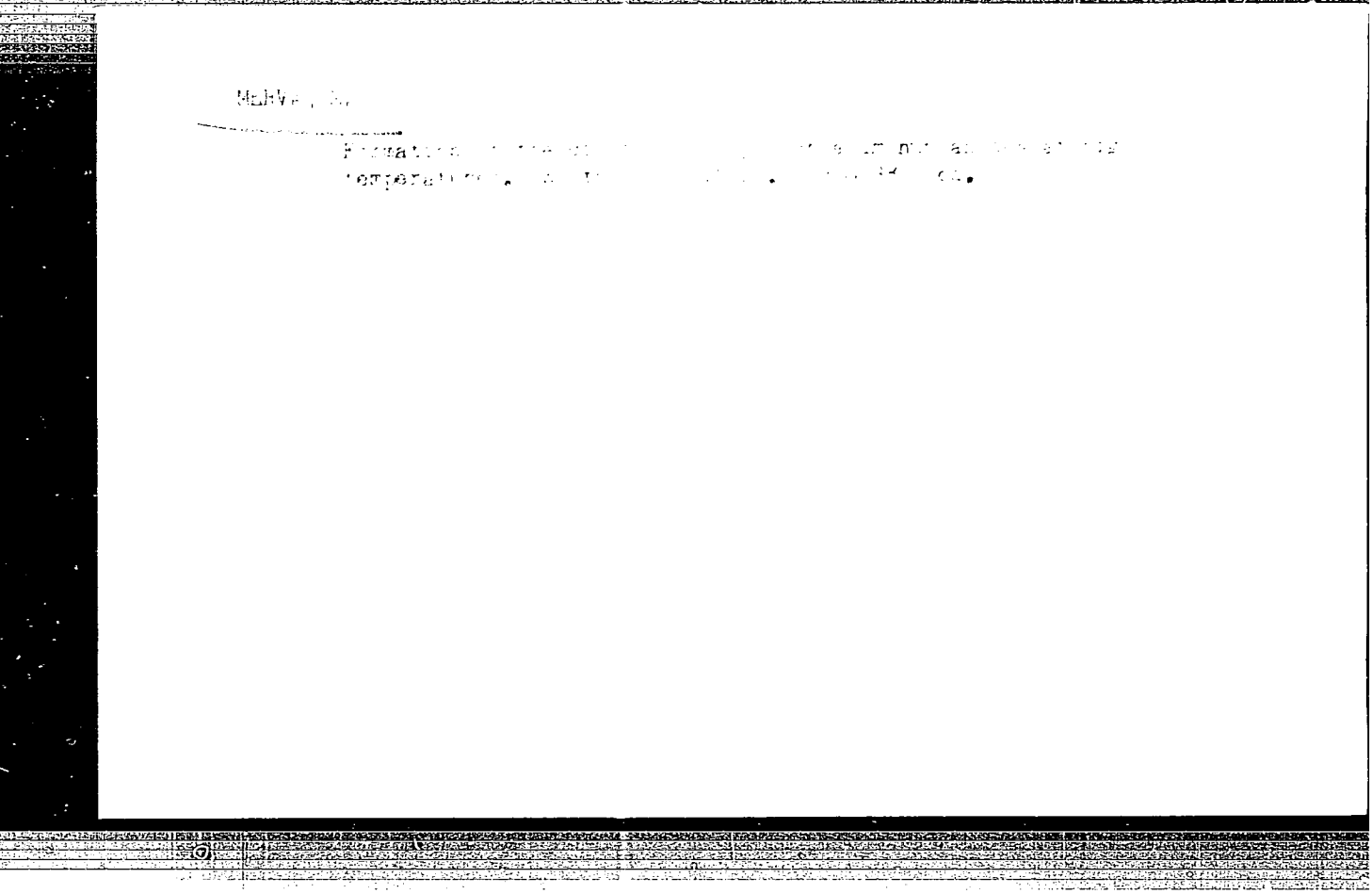
"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVA, M.

Electrolytic condenser with a solid electrolyte. El tech cas 15 no.5:316-320 '64.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

PAULIK, Juraj, Inz. CSc.; DRIPNAK, Andrej, RNDr.; MERVA, Milan, Inz.

Theoretical and experimental analysis of the methods of automatic direction and position keeping of coal cutter-loaders. Automatizace 7 no.8:201-203 Ag '64.

1. Institute of Mining, Slovak Academy of Sciences, Kosice.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, J.

The one who really directs research work, p. 221, RUDY (Ministerstvo hutniho prumyslu a rudnych dolu) Praha, Vol. 3, No. 7, July 1955

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 4, No. 12, December 1955

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, J.

Smaller initial profiles, greater general effectiveness. p. 309.

RUDY Vol. 3, no. 10, Oct. 1955

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7 July 1956

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

HERVART, J.

Determination of the quantity of chips and the degree of washing in core boring. p. 49.

Vol. 4, no. 2, Feb. 1956
RUDY
Praha, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, no. 8, August 1956

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, J.

Uniform budgets in surveying. p.166.
(Rudy, Vol. 5, No. 5, May 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 9, Sept. 1957. Uncl.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, J.

Our first experience with steel shot.

P. 247, (Rudy) Vol. 5, no. 7, July 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

NERVART, J.

TECHNOLOGY

periodical: RUDY Vol. 6, no. 7, July 195[illegible]

NERVART, J. Vibrators in prospecting. p. 232.

Monthly List of East European Accessions (EEAI) LC Vol. , no. 5
May 1 5[illegible], nclass.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, J.

"Larger borings from the point of view of basic parameters of the boring technique."

RUDY. Praha, Czechoslovakia. Vol. 7, no. 1, Jan. 1959.

Monthly list of East European Accessions (EEAI), LC, VOL. 8, No. 6, Jun 59, Unclas.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Jaromir, inz.

Chemical mine air purification. Rudy 9 no.11:373-375 N '61.

(Air) (Mine ventilation)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Jaroslav, inz., CSc.; NOVOTNY, Milan, inz., CSc.

Some economic problems in timber transportation. Les cas 9 no. 11: 959-974 N '63.

1. Vyzkumny ustav lesniho hospodarstvi a myslivosti, Zbraslav-Strnady.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Jaroslav; KONOPASEK, Jaroslav

Some urgent problems concerning the total cost indexes of forest production. Les cas 10 no.5:433-448 My '64.

1. Research Institute of Forestry and Game Protection, Zbraslav (for Mervart). 2. Ministry of Agriculture, Forestry and Water Resources Management, Prague (for Konopasek).

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Iozef [Mervart, Josef]; ZOTOV, B.D.[translator]; SEMENOV, I.I.[translator]; ROGINSKIY, G.S., prof., red.; BORODIN, Yu.V., red.; GOLICHENKOVA, A.A., tekhn. red.; REZUKHOVA,A.G., tekhn.red.

[Price determination in international commerce]TSenoobrazovanie v mezhdunarodnoi torgovle. Pod red. i so vstup. stat'ei G.S.Roginskogo. Moskva, Izd-vo inostr. lit-ry, 1962. 350 p. (MIRA 15:12)

(Prices) (Commerce)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, V.

MERVART, V. Some principles of a prepared draft for a new electrification law. p. 503.

Vol. 6, no. 12, Dec. 1956
ENERGETIKA
TECHNOLOGY
Czechoslovakia

So: East European Accession, Vol. 6, No. 5, May 1957

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Z.; KREN, J.

Phase equilibrium in the 1,3-butadien-acetone-water system under increased pressure. In German. Coll.Cz.Chem. 24 no.11:3688-3692 N '59. (EEAI 9:5)

1. Forschungsinstitut fur synthetischen Kautschuk, Gottwaldov. (Phase rule and equilibrium) (Butadiene) (Acetone) (Water) (Systems (Chemistry))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

"New apparatus for the determination of liquid-liquid equilibrium under pressure" Josef Jakubíček, Ladislav Rychtr, and Zdeněk Mervart (Výzk. ústav synth. kaučuku, Gottwaldov-Zlín, Czech.). *Chem. listy* 53, 920–8(1959).—An app. for liquid-liquid equil. measurements consists of a metal pressure vessel for pressures up to 12 atm. The vessel is surrounded by a thermostated jacket and fitted with sampling capillaries for upper and lower phase and with an inspection window. The app. is suitable for measuring 4-C hydrocarbon-solvent equil. M. Hudlický

Distr: 4E3d/4E2b(w)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Z/009/60/000/03/006/028
E142/E235

AUTHORS: Mervart, Z., Křen, J., and Loučka, P

TITLE: Economic Analysis of the Effect of the Properties of Solvents on the Separation of 1,3-Butadiene by Extraction Rectification

PERIODICAL: Chemický průmysl, 1960, Nr 3, pp 132-135

ABSTRACT: The separation of the C_4 hydrocarbon fraction, which is important in the manufacture of butadiene rubber, can be carried out by extraction rectification, using polar liquids which are selective for hydrocarbons with lower degree of saturation. Furfural, containing 4% of water (aqueous furfural), has been used by various authors for separating 1,3-butadiene (Refs 1 to 4). The authors investigated the possibility of using as solvent a mixture of acetone, containing 18% of water (aqueous acetone) and bis (2-chloroethyl) ether ("chlorex") (Ref 5). Flow sheets for both methods are given (Figs 1 and 2). The effect of the solvents on the relative volatility of the hydrocarbons, on the solubility of the hydrocarbons in the solvents, and on their properties under industrial conditions were compared (Table 1). The decisive economical factors were found to be the

Card 1/2

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"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

Z/009/60/000/03/006/028
E142/E235

Economic Analysis of the Effect of the Properties of Solvents on the Separation of 1,3-Butadiene by Extraction Rectification

corrosive and thermal properties of the solvents and the solubility of liquid hydrocarbons. Cost estimates for machinery when using aqueous acetone, aqueous furfural and chlorex are compared in Tables 2 and 3. Data on power consumption per ton of butadiene are compared in Table 4. The authors conclude that aqueous acetone is most satisfactory from an economical point of view, in spite of the fact that its use involves a more complicated technological process. There are 2 figures, 7 tables and 9 references, 2 of which are Czech, 6 English and 1 Soviet.

ASSOCIATION: Kaučuk, n.p., Výzkumný ústav syntetického kaučuku, Gottwaldov (Kaučuk n.p., Research Institute for Synthetic Rubber, Gottwaldov)

SUBMITTED: October 28, 1959

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Z.

Distr: 4E3b/4E2c(j)

Economic analysis of the effect of solvent characteristics on the isolation of 1,3- butadiene by extractive distillation. Zdeněk Mervart, Jaroslav Mlen, and Pavel Loučka (Výzk. ústav synth. kaučuku, Gottwaldov, Czech.). *Chem. průmysl* 10, 132-5(1960).—Three solvents, acetone with 18% H_2O, furfural with 4% H_2O, and bis(2-chloroethyl) ether are compared. The comparison is based on equipment costs, energy costs, and costs due to solvent losses. The cheapest process is that with aq. acetone, despite the more complicated process required. P. Čefelín

DR

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVART, Z.; KUBINOVA, M.; ZELIKOVA, V.

Equilibrium of liquid and vapor. Part 27: Phase balance in the isoprene-methanol system under atmospheric pressure. Coll Cz Chem 26 no.10: 2480-2483 O '61.

1. Kaucuk, Forschungsinstitut fur synthetischen Kautschuk, Gottwaldov.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

ANDRASINA, J.; MILAR, A.; MERVART, Z.

Clinical experiences in surgery with 20 albumin containing ethanol. Rozh. chir. 43 no.4:221-226 Ap '64.

1. Vedecke laboratorium chirurgickej kliniky Lekarskej fakulty PUJS v Kosiciach a Ustav ser a ockovacich latok Praha, pob. Sarisske Michalany.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

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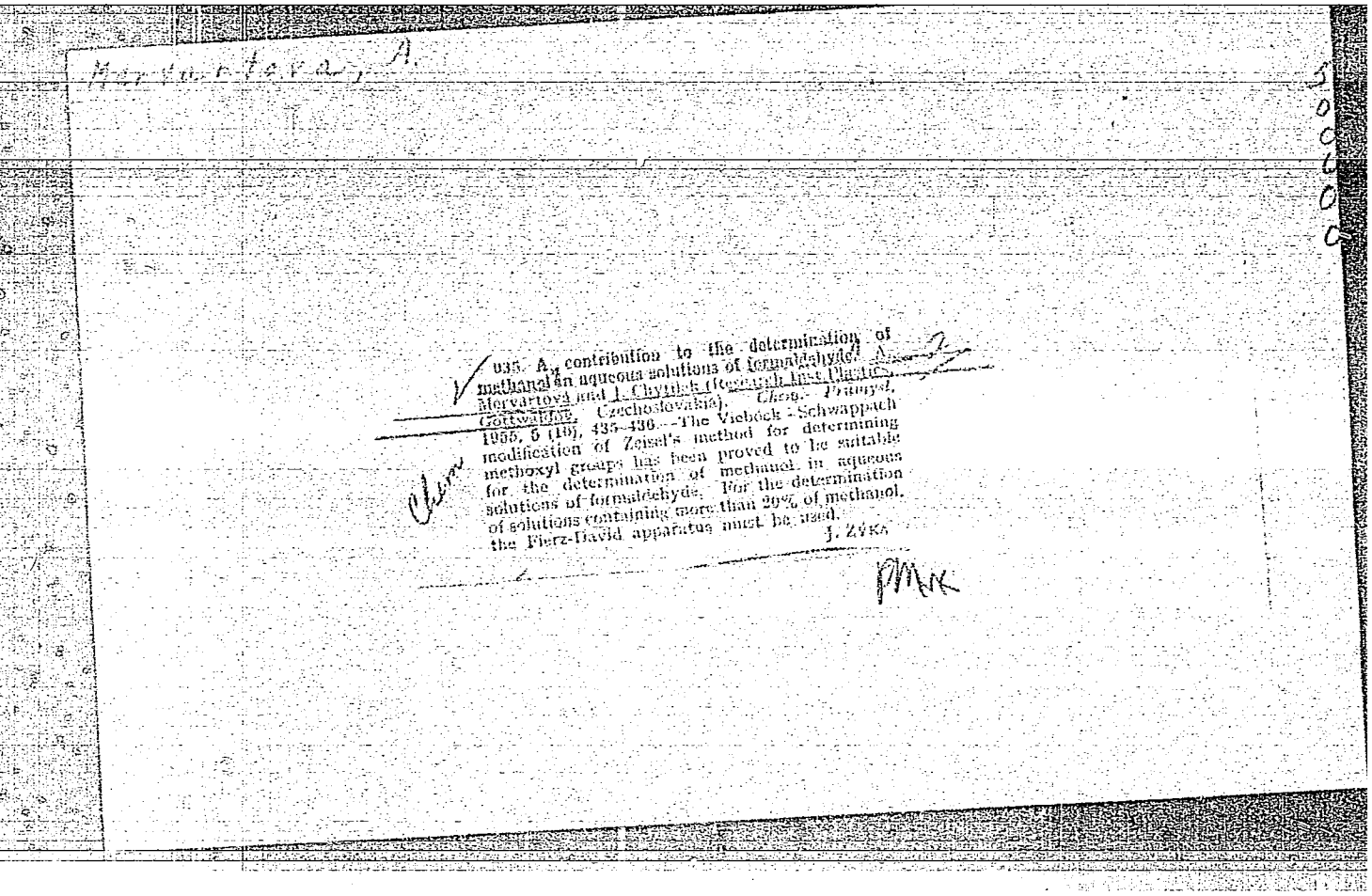

Mervartova, A.

035. A contribution to the determination of methanol in aqueous solutions of formaldehyde. Mervartova and J. Chytilek (Research Inst. Plastic, Gottwaldov, Czechoslovakia). Chem. Prumysl, 1955, 5 (10), 435–436.—The Viebock - Schwappach modification of Zeisel's method for determining methoxyl groups has been proved to be suitable for the determination of methanol in aqueous solutions of formaldehyde. For the determination of solutions containing more than 20% of methanol, the Fierz-David apparatus must be used.

J. ZVKA

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MALINSKY, Ladislav; MERVARTOVA, Kveta

Critique of own results of five-year survival in breast cancer.
Cesk. onkol. 3 no.3:215-222 1956.

1. Chirurgische Klinik der hygienischen Fakultat der Karls Univ. in Prag.
(BREAST CANCER, surgery,
postop. 5-year survival rate (Ger))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

MERVARTOVA, Kveta

Organization of regulation control of neoplastic diseases of the breast. Cesk. onkol. 3 no.3:223-227 1956.

1. Chirurg. Klinik der hygienischen Fakultat der Karls Univ. in Prag.
(BREAST NEOPLASMS, prevention and control, in Czech. (Ger))

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

USSR/Chemical Technology - Chemical Products and Their Application -- Chemical Nuclear Engineering Questions I-2

Abs Jour : Ref Zhur Khimiya, No 2, 1957, 8760

Author : Merrin, G., Upchurch, T. Greenleaf, E. [illegible] and Murphy, A

Inst :

Title : Extraction of Uranium from Ores.

Orig Pub : Khimiya yadernogo goryuch-go / The Chemistry of Nuclear Fuels / (Dokl. in. uchenykh na Mezhdunar. konferentsii po mirnomu ispol'zovaniyu atom. energii, Zheneva, 1955) / Reports presented by foreign scientists at the International Conference on the Peaceful Applications of Atomic Energy, Geneva, 1955 /, Goskhimizdat, Moscow, 1956, 91-101.

Abstract : A survey. The primary ores are decomposed with concentrated acids; the secondary ores are treated with alkali (including Na_2CO_3, $NaHCO_3$, $(NH_4)_2CO_3$). The choice of

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USSR/Chemical Technology - Chemical Products and Their Application, I-2
Chemical Nuclear Engineering Questions.

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 8760

of disintegration method depends on the composition of the ore. An increase in the contact time, temperature (20-90°) and in the grain size (from 10-20 mesh) in the acid-leach process leads to a gradual increase in the percent extraction of U. The addition of oxidizing substances increases the yield of U; the utilization of MnO_2 in amounts of 5 kg per ton of ore has proven most economical. The effect of the above-enumerated factors is the same in the alkaline-leach method. The precipitation and filtration of muddy residues causes some difficulty in the treatment of the ores. New chemical flocculation agents have been developed to improve the settling of the cake after leaching. The separation of U from the cake and from the solutions is carried out by one of the following methods: chemical precipitation, used in the treatment of ores which give easily filterable solutions (mainly by

Card 2/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033

USSR/Chemical Technology - Chemical Products and Their Application, Chemical Nuclear Engineering Questions. I-2

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 8760

precipitation with alkali from bicarbonate solutions); fixedbed ion exchange (for the extraction of U from clarified sulfuric acid solutions); moving-bed ion exchange; and organic extreaction (extraction of U from phosphoric acid solutions).

Card 3/3

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00103

ANDRASINA, J.; MERWART, Zd.; MILAR, A.; technicky spolupracovali: KRUPOVA, C.; SLANINOVA, B.; SPISIAKOVA, M.

Albumin as a substitute for protein solutions in shock control. (Experience with 20 per cent albumin produced in Czechoslovakia). Rozhl. chir. 41 no.10:641-653 O '62.

1. Vedecke laboratorium chirurgickej kliniky Lekarskej fakulty Univerzity P.J.Safarika v Kosiciach, riaditel prof. dr. J. Knazovicky Ustav ser a ockovacich latok, Praha, pobocka Sarisske Michalany.
(SHOCK) (ALBUMINS) (PLASMA SUBSTITUTES)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001033